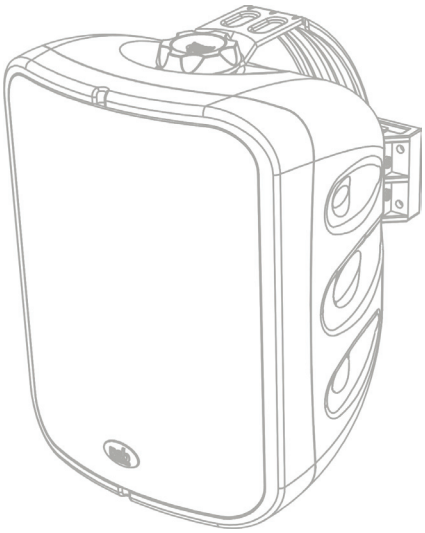
PSB
Universal Speakers
OWNER'S GUIDE



www.psbspeakers.com

psb SPEAKERS

CONTENTS

I.	Speaker Placement - Maximizing your Enjoyment	4
II.	Mounting The Speakers	4
III.	Aiming and Positioning the Speakers	6
IV.	Weather Resistance	6
V.	Connecting the Speakers	7
VI.	Painting	7
VII.	Protecting your Investment	8
VIII.	Troubleshooting	9

Thank you for your purchase. Our speakers are designed to make high-performance sound easy to bring into your life. They have wide frequency and dynamic range, natural tonal balance and precise spatial imaging needed to make music lifelike and enjoyable.

I. SPEAKER PLACEMENT—MAXIMIZING YOUR ENJOYMENT

In most installations, ideal speaker placement relative to the listening positions and surrounding areas can be difficult to achieve. However, following as much as possible, the guidelines listed below can greatly improve the final sonic effect, lower the expense and simplify the installation.

Consider the desired and probable locations of listeners when deciding on speaker placements. As much as possible, listeners should have a clear line-of-sight/hearing to all speakers in their listening area. Other important factors are:

1. Locating speakers equidistant to listeners.
2. Locating speakers slightly closer to each other than their distance from listeners.
3. Locating speakers symmetrically to each other and to the listeners.
4. Aiming speakers slightly above the listening area—the speakers have been voiced to achieve enhanced coverage in open spaces.
5. In horizontal installations locating the tweeters towards the outside of the listening area.

Balance adjustments on the amplifier can compensate for some physical location differences between the left and right speaker.

Mounting/locating a speaker in a corner, near the ceiling or under the soffit and similar single or multiple boundary surfaces will increase the bass output. For full bass extension in addition to placement, the Port Plug should be removed from the port (if applicable). However, under extreme weather conditions, the Port Plug should be inserted to protect the speaker.

II. MOUNTING THE SPEAKERS

Select corrosion resistant fasteners (eg. made of stainless steel) of sufficient quality and size, appropriate for the surface to which the speakers will be mounted, to ensure secure mounting with good safety margin.

It is your responsibility to ensure that the surfaces selected for attaching the speakers are structurally sound and strong enough to bear the weight of the speakers. Consider using #10 - #12 (5.0 or 5.5mm) screws that are 2.5 to 3" (65 to 75mm) long for direct-to-wall stud attachment or specialty anchoring hardware for hollow-wall or masonry installation. It is strongly recommended to use Steel Cable for tethering the speaker to the mounting surface. The cable should pass through the Cable Guide and wrap aroung the Aluminium Bracket as shown in Figure 2.

1. Remove the Aluminium Bracket assembly from the speaker by removing two plastic Knobs.
   Please refer to Figure 1.
2. Hold the bracket assembly against the intended mounting surface, ensuring that such location allows for full adjustment range of the speaker orientation without interfering with close-by objects. Using the Plastic Wall Plate of the Aluminium Bracket as your template, mark screw hole locations.
3. Take the Aluminium Bracket and Plastic Wall Plate, as an assembly, and install to the mounting surface with the appropriate hardware.
4. Secure the speaker to the mounted bracket assembly with the two Knobs.

Figure 1:

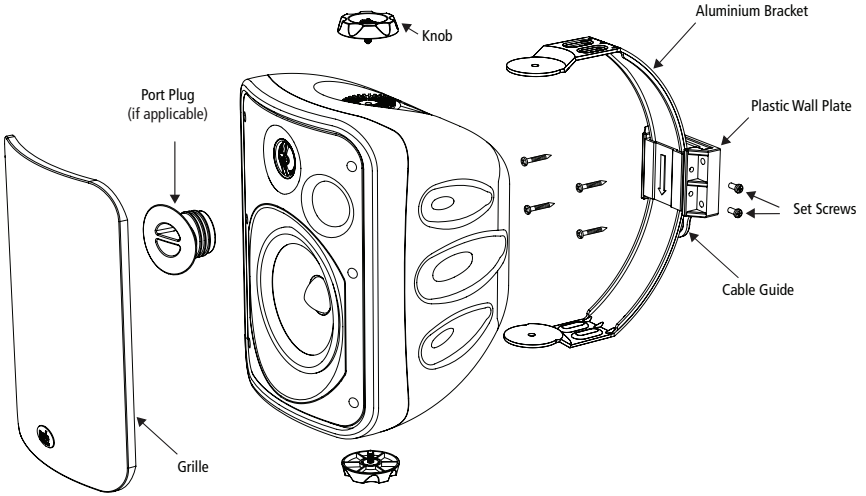


Figure 2:

CAUTION: When using the Cable Guide ensure the Steel Cable wraps around the Aluminium Bracket.

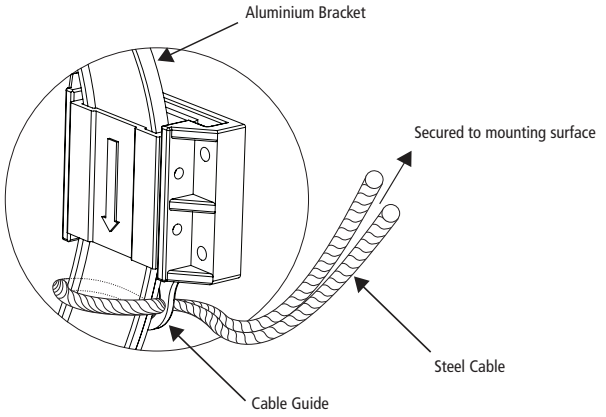
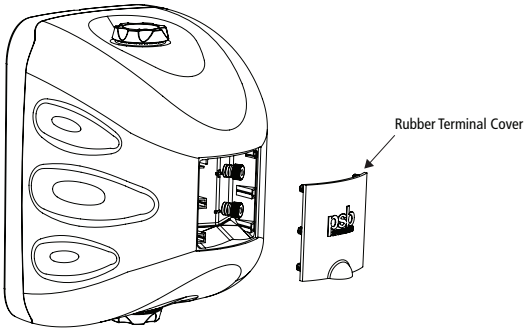


Figure 3:



III. AIMING AND POSITIONING THE SPEAKERS

The speaker can be tilted up or down by loosening the two Set Screws located on the right side of the Plastic Wall Plate and sliding the speaker on the curved Aluminium Bracket to the desired position and tightening the Set Screws.

The speaker can be turned to the left or to the right side by loosening both plastic Knobs and then tightening them again after the desired position is achieved.

IV. WEATHER RESISTANCE

Materials used in building PSB Universal speakers have been selected for their durability, while providing excellent sonic performance in most indoor and outdoor applications.

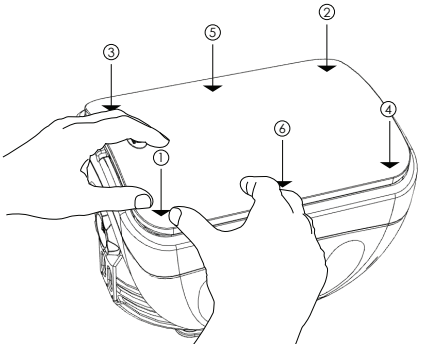
For outdoor applications, preference should be given to locations that provide protection from the elements.

During extreme weather conditions, the Port (if applicable) should be closed with the supplied Port Plug to prevent water from entering the speakers.

To access the port (if applicable), the Grille needs to be removed by using the supplied Grille puller and gently pulling along the Grille's edge, starting at the groove in the middle of the speaker. With the Port Plug installed, carefully install the Grille by gently applying pressure around the perimeter of the Grille, in the sequence illustrated in Figure 4.

For outdoor applications, we recommend covering the terminals with the supplied Rubber Terminal Cover (Figure 3).

Figure 4:



V. CONNECTING THE SPEAKERS

Connect each speaker with a standard two-wire cable to the signal source either directly or through a local volume control. The speakers must be wired appropriately for the intended control. The impedance loads of the speakers must be balanced with the capabilities of the amplifier. In some mono-only systems, a single wire may be connecting speakers in series, entering from one speaker to another—beginning and ending at the amplifier. Wire gauge should decrease with longer runs—usually 16AWG (1.3mm dia) stranded copper wire is minimal, with 12 AWG (2.0mm dia) being better for longer runs.

The ends of each wire need to be separated, stripped, twisted and inserted into the correct terminal post. Polarity needs to be maintained to ensure in-phase connection for maximum bass and clarity. Out-of-phase connection will result in frequency cancellations and produces thinner, less distinct sound—with less bass, vague vocal quality and no solid centre image.

To help ensure proper connection, the two separate conducting wires in a standard two-conductor speaker cable are coded in one way or another to be distinguishable from each other (for example +/rib/writing/red).

VI. PAINTING

Before painting, the Grille has to be separated from the enclosure. Starting at the baffle groove detail, use the supplied Grille puller to gently pull along the edge of the Grille, until the Grille comes out. The Rubber Terminal Cover, Aluminium Bracket and Knobs need to be removed as well.

Carefully mask the baffle, terminals, threaded inserts and logo on the Grille. Lightly sand the enclosure, Grille, Aluminium Bracket, Plastic Wall Plate and Knobs. Using a cloth moistened with mild detergent remove paint residue and any grease contamination. Let dry. For best results apply several light paint coats instead of one heavy coat. This is especially important for the Grille, to prevent clogging of the perforations. Application of primer prior to top coating is recommended.

For outdoor installations use exterior grade paint.

When painting is completely dry on all parts, carefully insert the Grille by applying minimum pressure and working it slowly along its edge to prevent bending as shown in Figure 4.

VII. PROTECTING YOUR INVESTMENT

A. **For full, year-after-year enjoyment from your speakers, you should respect their limits.** They will produce space-filling volume in average-sized areas—and handle peak momentary levels at those volumes without audible strain. But avoid louder-than-life playback of music or movies. Even the most robust speakers can be damaged by excessive volume levels, especially for long periods.

B. **When listening to music or movies at very loud volume, you shouldn't turn up bass or treble to maximum or near maximum levels.** This sends tremendously increased, disproportionate power into the speakers and may damage them. Some loudness compensation (Loudness) controls, which boost both bass and treble, can also be troublesome at high volume. They are intended only for low-volume listening.

C. **Finally, you should be aware that when amplifiers and receivers are pushed to their limits to produce excessive volume levels, they are driven into "clipping" and can do severe damage—especially to tweeters.** Often, the damage is done by underpowered amplifiers, which may reach their limits very soon. When such units begin to "clip" the audio waveform, they may generate high-frequency spikes of tremendous power. More tweeters have probably been destroyed by this phenomenon than any other. If using your speakers at high volume levels, listen carefully for any sign of harsh, garbled midrange and diminishing intelligibility—and turn the volume down right away if you detect it.

NEVER TURN UP THE VOLUME ALL THE WAY TO SEE HOW LOUD YOUR SYSTEM WILL PLAY!

D. **Recommended Power**

We recommend amplifiers and receivers rated from a range of 20-150 watts. For playing at consistently space-filling volume, a minimum of 50 watts is usually a good idea. As just indicated in the paragraph above, be wary of driving low-powered amplifiers to their limits.

We recommend a maximum of 80-120 watts for sustained program material—as, for instance, with organ pedal tones of long duration, or minutes-long subterranean special effects in movies.

Amplifiers with equal power rating may not play equally loud. Those with higher dynamic power ratings, better satisfy the power requirements. Some have protective circuitry that curtails power available in demanding situations.

E. **Cabinet Care**

If necessary, wipe the cabinets carefully with a slightly dampened cloth. Do not use solvents or any abrasive materials.

F. **Grilles and Ports**

A lint brush does a good job of cleaning Grilles. The Grilles can be taken off and vacuumed if you prefer. If need be, you can use a lint brush to clean ports. Avoid touching speaker diaphragms. Particularly, pushing in the tweeter domes will permanently damage tweeters.

VIII. TROUBLESHOOTING

A. Lower the volume if a speaker begins to sound distorted or seems to be missing certain frequencies, to check first if playing at somewhat lower volume seems to clear up the problem. It can be especially important to turn down the volume right away if you have pushed a low-powered amplifier or receiver past its comfortable limits.

B. Determine if the problem is caused by the electronics or the speakers and, if it is the speakers, which specific speaker. Interchange the speaker wire connections on your amplifier or receiver between channels, for example by connecting the left speaker to the right channel, or vice versa. If the problem shifts to the other speaker, the problem is not in the speaker but in the electronics.

C. Another component—or, very often, a cable or connection problem between components—may be at fault. If the problem stays in the same speaker, irrespective of the channel to which it's connected—and after changing the connecting wire—chances are the speaker itself probably needs service.

D. See your dealer if you require service. PSB dealers are equipped to handle almost all problems. If you have moved since your purchase, the nearest authorized PSB dealer should be able to help you. If the problem is not resolved, please contact us, providing the model name, serial number, date of purchase, dealer name, and a full description of the problem.

We appreciate your purchase, and hope this owner's guide helps you enjoy the exceptional value that PSB speaker systems have to offer. We wish you many years of enjoyable listening!

Notes on environmental protection

At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging, points this out.

The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

PSB Speakers
633 Granite Court
Pickering, Ontario L1W 3K1
CANADA

www.psbspeakers.com
888-772-0000 (North America)
905-831-6555 (International)
Fax: 905-837-6357

OM-UNI, 11-024, Rev A4